

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Previously Presented) A wireless terminal comprising:
a housing including an earpiece on a front face of the housing;
an electronic circuit disposed within the housing;
a flat-panel speaker positioned proximate a back side of the electronic circuit within the housing; and
an internal antenna positioned proximate the flat-panel speaker on the back side of the electronic circuit within the housing, wherein the electronic circuit is positioned between the front face of the housing and the flat panel speaker and internal antenna.
2. (Original) The wireless terminal of Claim 1, wherein the flat-panel speaker is integrated with the internal antenna.
3. (Original) The wireless terminal of Claim 2, wherein the flat-panel speaker and the internal antenna each comprise conductive portions that reside on a first primary surface of a common substrate.
4. (Original) The wireless terminal of Claim 1, wherein the internal antenna is a planar antenna.
5. (Previously Presented) The wireless terminal of Claim 1, wherein the housing includes a keyboard on the front face of the housing.
6. (Original) The wireless terminal of Claim 5, wherein the electronic circuit comprises a printed circuit board, and wherein the wireless terminal further comprises a

forward acoustic passageway extending from the flat-panel speaker to the earpiece, the forward acoustic passageway comprising at least one acoustic aperture extending through the printed circuit board adjacent the flat-panel speaker.

7. (Original) The wireless terminal of Claim 6, wherein the internal antenna is positioned between the printed circuit board and the flat-panel speaker and wherein the forward acoustic passageway further comprises at least one acoustic aperture extending through the internal antenna.

8. (Original) The wireless terminal of Claim 1, wherein the electronic circuit comprises a printed circuit board having a signal feed and a ground plane, and wherein the internal antenna is operatively coupled to the signal feed and the ground plane.

9. (Previously presented) A wireless terminal comprising:
a housing;
an electronic circuit disposed within the housing;
a speaker positioned proximate a back side of the electronic circuit within the housing;
an internal antenna positioned proximate the speaker on the back side of the electronic circuit within the housing; and
wherein the electronic circuit includes an audio driver circuit coupled through a balanced feed to the speaker.

10. (Original) The wireless terminal of Claim 9, wherein the balanced feed comprises a plurality of leads, and wherein the electronic circuit further comprises an RF isolation circuit on each lead of the balanced feed.

11. (Original) The wireless terminal of Claim 10, wherein the RF isolation circuit comprises a tank circuit.

12. (Original) The wireless terminal of Claim 10, wherein the RF isolation circuit comprises an inductor.

13. (Original) The wireless terminal of Claim 1, wherein the flat-panel speaker is configured to act as a parasitic element to the internal antenna.

14. (Original) The wireless terminal of Claim 13, wherein the flat-panel speaker is configured to act as a parasitic element that provides a lower frequency range frequency response for the internal antenna.

15. (Currently Amended) A wireless terminal comprising:
a housing;
an electronic circuit disposed within the housing;
a flat panel speaker positioned proximate a back side of the electronic circuit within the housing;
an internal antenna positioned proximate the flat panel speaker on the back side of the electronic circuit within the housing; and
wherein the flat panel speaker is configured to act as a parasitic element to the internal antenna that provides an increased bandwidth frequency response for the internal antenna.

16. (Original) The wireless terminal of Claim 13, wherein the flat-panel speaker is configured to act as a parasitic element that provides a multi-band frequency response for the internal antenna.

17. (Original) The wireless terminal of Claim 1, wherein the internal antenna comprises a planar inverted-F antenna (PIFA).

18. (Original) The wireless terminal of Claim 1, wherein the internal antenna

comprises a single-contact patch antenna.

19. (Original) The wireless terminal of Claim 1, wherein the internal antenna comprises a monopole antenna.

20. (Original) The wireless terminal of Claim 2, wherein the electronic circuit comprises:

an audio driver circuit coupled to the flat-panel speaker through a balanced feed comprising a plurality of leads;

an antenna driver circuit in communication with the internal antenna; and

a signal compensation circuit in communication with the audio driver circuit and the antenna driver circuit, wherein when the internal antenna is in transmit mode the signal compensation circuit compensates a signal from the audio driver circuit to the flat-panel speaker.

21-22. (Canceled).

23. (Previously presented) An antenna subassembly comprising:

a planar antenna;

a speaker, wherein the speaker is integrated with the planar antenna; and

wherein the antenna subassembly further comprises an electronic circuit including an audio driver circuit coupled through a balanced feed to the speaker.

24. (Original) The antenna subassembly of Claim 23, wherein the balanced feed comprises a plurality of leads, and wherein the electronic circuit further comprises an RF isolation circuit on each lead of the balanced feed.

25. (Original) The antenna subassembly of Claim 24, wherein the RF isolation circuit comprises a tank circuit.

26. (Original) The antenna subassembly of Claim 24, wherein the RF isolation circuit comprises an inductor.

27. (Previously Presented) An antenna subassembly, comprising:
a planar antenna; and
a flat-panel speaker, wherein the flat-panel speaker is integrated with the planar antenna and wherein the flat-panel speaker is configured to act as a parasitic element to the planar antenna.

28. (Original) The antenna subassembly of Claim 27, wherein the flat-panel speaker is configured to act as a parasitic element that provides a lower frequency range frequency response for the planar antenna.

29. (Currently Amended) An antenna subassembly comprising:
a planar antenna;
a flat panel speaker, wherein the flat panel speaker is integrated with the planar antenna; and
wherein the flat panel speaker is configured to act as parasitic element to the planar antenna that provides an increased bandwidth frequency response for the planar antenna.

30. (Original) The antenna subassembly of Claim 27, wherein the flat-panel speaker is configured to act as a parasitic element that provides a multi-band frequency response for the planar antenna.

31. (Previously Presented) The antenna subassembly of Claim 27, wherein the planar antenna comprises a planar inverted-F antenna (PIFA).

32. (Previously Presented) The antenna subassembly of Claim 27, wherein the

In re: Hayes
Serial No. 10/632,320
Filed: August 1, 2003
Page 7 of 13

planar antenna comprises a single-contact patch antenna.

33. (Previously Presented) The antenna subassembly of Claim 27, wherein the planar antenna comprises a monopole antenna.